REMARKS / ARGUMENTS

The present application includes pending claims 1-28. Claims 27-28 were allowed. Claims 1-7, 12-19, 22-23, and 26 were rejected. Claims 8-11, 20-21, and 24-25 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-7, 12-19, 22-23, and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Schmidt (US Pub. No. 2003/0067894 A1), and further in view of Kransmo (US Patent No. 6,594,424 B1). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure ("MPEP") states the following:

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the teaching. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

See MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.

Cir. 1991) (emphasis added). Further, MPEP § 2143.01 states that "the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination," and that "although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be *a suggestion or motivation in the reference* to do so'" (citing In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)). Moreover, MPEP § 2143.01 also states that the level of ordinary skill in the art cannot be relied upon to provide the suggestion...," citing Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness.

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

I. The Proposed Combination Of Neumann, Schmidt and Kransmo Does Not Render Claims 1-7, 12-19, 22-23, And 26 Unpatentable

The Applicant first turns to the rejection of claims 1-7, 12-19, 22-23, and 26, all of which have been rejected under 35 U.S.C § 103(a). The Applicant notes that the proposed combination of Neumann, Schmidt and Kransmo forms a basis for rejection of all of the pending claims.

A. The Proposed Combination of Neumann, Schmidt and Kransmo Does Not Teach or Suggest "A First Baseband Co-Processor Configured To Execute Low-Level Stack Operations Of A First Wireless Communications Protocol"

With regard to the rejection of independent claim 1 under 35 U.S.C. § 103(a), the Applicant submits that the combination of Neumann, Schmidt and Kransmo does not disclose or suggest at least the limitation of "a first baseband co-processor configured to execute low-level stack operations of a first wireless communications protocol ...and a host baseband processor configured to execute ... higher-level stack operations of said first wireless communications protocol," as recited by the Applicant in independent claim 1.

With regard to claim 1, **the Final Office Action concedes that "Neumann does not specifically disclose baseband co-processor configured to execute low-level stack operations of a first wireless communications protocol."** *See* the Final Office Action at page 4 (emphasis added). The Final Office Action therefore relies on Schmidt to satisfy this deficiency. The Final Office Action states the following:

> Schmidt discloses baseband co-processor configured to execute **low-level stack operations of a first** wireless communications protocol (Figures 1 A-2, abstract, paragraphs 0004, 0010-0011, 23-25, 27-29, 31, 35, 40, 44-46, 49, and 51, "TCP/IP", "HTML", "HTTP", "processor 220", "short-range wireless transceiver"). It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the device of Neumann, by incorporating the teachings of Schmidt into that of Neumann, and consequently providing the co-processor configured to execute low-level stack operations of a first wireless communications protocol, motivation being to distribute the stack operations of the protocols between processors, and consequently providing efficiency and faster execution of operations.

See id. The Applicant respectfully disagrees with the above argument. Schmidt discloses the following:

> A multi-mode wireless device on a single substrate includes an analog portion and a digital portion integrated on the single substrate. The analog portion includes a cellular radio core; and a short-range wireless transceiver core. The digital portion includes a multi-processor core with a master processor coupled to a router which distributes data from the radio chip to a serial-parallel array of DSP processors, each of which is connected to multiple DSP coprocessors. This arrangement allows for decoding both complex protocols at low data rates (like GPRS), simple protocols at high data rates (like 802.11A) and complex protocols at high data rates (like WCDMA), using the same hardware.

See Schmidt at Abstract. The Applicants respectfully asserts that Schmidt also does not disclose at least the limitation of "a first baseband co-processor configured to **execute low-level stack operations** of a first wireless communications protocol employed within a first wireless communications network." *Emphasis added.* Instead, Schmidt discloses "a multi-processor core ... arrangement that allows for decoding both complex protocols at low data rates (like GPRS), simple protocols at high data rates (like 802.11A) and complex protocols at high data rates (like WCDMA), using the same hardware." *See* Schmidt at Abstract, and paragraph [0010]. Schmidt further discloses "The reconfigurable processor core **150** controls the cellular radio core **110** and the short-range wireless transceiver core **130** to provide a seamless dual-mode network integrated circuit that operates with a plurality of distinct and unrelated communications standards and protocols such as Global System for Mobile Communications (GSM), General Packet Radio Service (GPRS), Enhance Data Rates for GSM Evolution (Edge) and Bluetooth™. The cell phone core **110** provides wide area network (WAN) access, while the short-range wireless transceiver core **130** supports local area network (LAN)

access. The reconfigurable processor core **150** has embedded read-only-memory (ROM) containing software such as IEEE802 11, GSM, GPRS, Edge, and/or Bluetooth™ protocol software, among others." *See* Schmidt at paragraph [0025].

Furthermore, the Final Office Action states, "Schmidt discloses baseband co-processor configured to execute low-level stack operations of a first wireless communications protocol," and cites "Figures 1 A-2, abstract, paragraphs 0004, 0010-0011, 23-25, 27-29, 31, 35, 40, 44-46, 49, and 51, "TCP/IP", "HTML", "HTTP", "processor 220", "short-range wireless transceiver" for support. The Applicant respectfully disagrees that "Schmidt discloses baseband co-processor configured to execute low-level stack operations of a first wireless communications protocol."

The Applicant would like to point out that **none of the above-listed operations disclosed by Schmidt amount to "low-level stack operations** of a wireless communications protocol," as disclosed in the Applicant's invention. The Applicant further points out that it is common knowledge that stack organization may be represented by the OSI Reference Model, where the low-level stack is represented by Layer 1, or the physical layer. Schmidt does not disclose or suggest any stack operations, including low-level stack operations. In fact, **the cited protocols disclosed by Schmidt, namely, TCP/IP, HTML, and HTTP are upper layer protocols and not "physical layer or bearer-specific functions" as claimed by Applicant.** It is well known in the art that Physical Layer function are defined by OSI Layer 1, which is also known as the Physical Layer or PHY layer. Accordingly, the protocols would not qualify as "low-level stack operations."

The Applicant points out that the above arguments with regard to the deficiencies of Neumann and Schmidt were also used in the June 27, 2006 response by the Applicant and the Examiner has not replied to these arguments in the Final Office Action.

Furthermore, with regard to the rejection of claim 1, the Applicant points out that the combination of Neumann, Schmidt and Kransmo not only fails to disclose a baseband processor configured to execute low-level stack operations of a first protocol, but it also fails to disclose or suggest a "host baseband processor configured to execute ... higher level stack operations *of the first wireless communications protocol*," as claimed by the Applicant in claim 1. **None of the references and citations used by the Examiner in the Final Office Action evidence such split-level processing,** whereby a portion of the stack operations (i.e. low-level stack operations) of a first wireless communications protocol is performed by a first baseband processor, and a higher level stack operations *of the same first wireless communication protocol* are performed by a second baseband processor (i.e., a host baseband processor), as claimed by the Applicant in claim 1.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claim 1 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claim 1.

B. The Proposed Combination of Neumann, Schmidt and Kransmo Does Not Teach Or Suggest "One Or Both Of Said First Baseband Co-Processor And Said Host Baseband Processor Enabling

Switching Between Bearers Utilizing Said Low-Level Stack Operations And Said Set Of Protocol Stack Operations And Maintaining Bearer Connections During Said Switching"

With regard to the rejection of independent claim 1 under 35 U.S.C. § 103(a), the Applicant submits that the combination of Neumann, Schmidt and Kransmo also does not disclose or suggest at least the limitation of "one or both of said first baseband co-processor and said host baseband processor enabling switching between bearers utilizing said low-level stack operations and said set of protocol stack operations and maintaining bearer connections during said switching," as recited by the Applicant in independent claim 1.

The *Final Office Action concedes that the combination of Neumann, Schmidt and Kransmo "does not specifically disclose* one or both of said first baseband co-processor and said host baseband processor enabling switching between bearers utilizing low-level stack operations and set of protocol stack operations and maintaining bearer connections during switching." *See* the Final Office Action at page 4. The Final Office Action further states the following:

> Hence, at least one of the processors enables switching between bearers (protocols) **utilizing low-level stack operations (e.g., 3G operations) and a set of protocol stack operations (e.g., 2G operations)** and maintaining bearer connections during switching (during a soft handoff which is inherent with WCDMA systems the initial connection is maintained until the new connection is firmly established). (emphasis added)

See id. at page 5. The Applicant respectfully disagrees with this argument. It seems that the Examiner is confusing the meaning of the terms "2G" and "3G", which

are commonly known in the wireless signal processing arts. The term "2G" refers to second generation wireless systems and "3G" refers to the third generation of wireless systems. The terms "2G operations" and "3G operations" are, therefore, not related to protocol stack operations and low-level stack operations, respectively. As already discussed above with regard to Section I-A, low-level stack operations are not supported by any of Neumann, Schmidt or Kransmo. In addition, Neumann, Schmidt and Kransmo do not disclose switching between bearers with specific use of low-level stack operations and protocol stack operations, as well as maintaining bearer connections during the switching, as recited by the Applicant in independent claim 1.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claim 1 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claim 1.

C. Rejection of Independent Claims 13, 19, and 23

Independent claims 13, 19, and 23 are similar in many respects to the device disclosed in independent claim 1. Furthermore, the Examiner has used the same arguments to address the rejections of claims 1, 13, 19, and 23 in the Final Office Action. Therefore, the Applicant submits that independent claims 13, 19, and 23 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

D. Rejection of Dependent Claims 2-12, 14-18, 20-22, and 24-26

Based on at least the foregoing, the Applicant believes the rejection of

independent claims 1, 13, 19, and 23 under 35 U.S.C. § 103(a) has been overcome and requests that the rejection be withdrawn. Additionally, claims 2-12, 14-18, 20-22, and 24-26 depend from independent claims 1, 13, 19, and 23, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-26

II. Inherency With Regard to Claims 1, 13, and 23

The Final Office Action states the following:

> Neumann inherently discloses that the baseband co-processor is configured to execute low-level stack operations of a first wireless communications protocol ... Inherently during the roaming process from a 3G system to a 2G system the dual-mobile terminal switches communication operations from a first processor that processes communications of 3G type to a second processor that processes communications of a 2G type so that the call is successfully handed over.

See the Final Office Action at pages 3-5. Initially, the Applicant notes that it appears that claim 1 is being rejected at least partially based on inherency. In addition, the Final Office Action uses similar inherency statements with regard to the rejections of claims 13 and 23.

The Applicant submits that **a rejection based on inherency must include a statement of the rationale or evidence tending to show inherency**. *See* Manual of Patent Examining Procedure at § 2112. "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." *See id. citing In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d

1955, 1957 (Fed. Cir. 1993).

> To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. **Inherency, however, may not be established by probabilities or possibilities.** The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

The Applicant respectfully submits that neither the Neumann and Kransmo references nor the Final Office Action "make[s] clear that the missing descriptive matter," said to be inherent "is necessarily present in" Neumann and Kransmo.

A rejection based on inherency must be based on factual or technical reasoning:

> In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teaching of the applied prior art.

Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

The Applicant respectfully submits that the Final Office Action does not contain a basis in fact and/or technical reasoning to support the rejection based on inherency. Instead, as recited above, at least claim 1 of the present application stands rejected based on a conclusory statement of inherency, rather than upon a "basis in fact and/or technical reasoning." Accordingly, the Applicant respectfully submits that, absent a "basis in fact and/or technical reasoning" for the rejection of record, that rejection of claims 1, 13, and 23 should be reconsidered and withdrawn.

III. Change of the Attorney Docket Number

*The Applicant respectfully requests that the Attorney Docket number be changed to **16135US02**. The Applicant respectfully requests that such change be made effective immediately in the official USPTO record and in any subsequent communication from the USPTO.*

CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-28 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and request that the Examiner telephone the undersigned Attorney at (312) 775-8176.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

Date: 08-NOV-2006

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